

Remarks

The Examiner is thanked for the Office Action dated June 4, 2002. This amendment and request for reconsideration is intended to be fully responsive thereto.

The disclosure was objected to because of informalities such as lack of the proper heading arrangement and reference to claim 1 on page 1, line 3. The application has been amended to correct these defects. No new matter has been added.

Applicant has added an Abstract added to satisfy the requirement as set forth in 37 CFR 1.72(b). No new matter has been added.

Claims 1-16 were rejected under 35 USC § 112, second paragraph, for containing indefinite words and phrases making the claims unclear. Claims 1-16 have been amended and are now believed to be in conformance with 35 USC § 112.

It is respectfully submitted that claims 1-16 define the invention and are in condition for allowance and notice to that effect is earnestly solicited.

Should the Examiner believe further discussion regarding the above claim language would expedite prosecution they are invited to contact the undersigned at the number listed below.

Dated: 9/4/02

Respectfully Submitted,



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ASSEL
09/700,788

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ASSEL, M. et al.

Appl. No. 09/700,788

Filed: February 27, 2001

Group Art Unit: 3682

Examiner: KIM

Title: SHIFT MECHANISM FOR A BICYCLE GEAR ASSEMBLY

APPENDIX OF AMENDMENTS

In the Specification:

Please add the following abstract:

Abstract

A shift mechanism for a bicycle gear assembly that includes an actuating part that may be moved by an actuating lever or a release lever to shift between the gears of the gear assembly. The actuating and release levers operate independently from each other. The actuating part has a winding groove for receiving a cable connected to the gear assembly and first and second toothed segments. The release lever controls a detent element having first and second detent noses that are alternately engageable with the first and second toothed segments, respectively. The release lever may also have a cam contour that allows at least two gears to be shifted upon actuation of the release lever.

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In the claims:

1. (Amended) A shift mechanism for a bicycle gear[s] assembly, comprising:

a housing having an axis;

an actuating lever [(1) that is arranged in such a way that it can rotate] rotatable about [a] the [central] axis; [(11) fixed in relation to the housing (2) and is intended for control of an actuating part (3), which is arranged in the housing (2), likewise in such a way that it can rotate]

an actuating part rotatable about the [central] axis [(11), and has] and having a winding groove [(4)] for receiving a tension cable [(5),], the actuating part having a toothing;

a pawl [(6) interacting] engageable with the tothing [(7)] on the actuating part [(3)] to wind up the tension cable; [(5), further comprising]

[a release and retaining mechanism, comprising] [a] first [toothed segment(8)] and [a] second toothed segments [(9), which are] connected to the actuating part [(3), and];

[a release lever (10), which interacts alternately with the first toothed segment (8) and the second toothed segment (9), characterized in that arranged pivotably in the housing (2) there is]

a detent element [(12) that can be moved by the release lever (10) and has] having a first detent nose [(13)] and a second detent nose [(14)], the first detent nose [(13) interacting] engageable with the first toothed segment [(8)] and the second detent nose [(14) interacting] engageable with the second toothed segment [(9),] such that [the actuating part (3) thereby being turned by a tensile force, applied by the tension cable

(5),] when one of the [two] first and second detent noses [(13, 14)] is disengaged from the toothed segment [(8,9)], the actuating part is turned by tensile force of the tension cable;
and

a release lever operatively connected to the detent element for controlling the
detent element.

2. (Amended) The shift mechanism as claimed in claim 1, [characterized in that] wherein the detent element [(12)] is pivotably mounted [pivotably] on a pivot [(15) that is arranged in a manner] fixed in relation to the housing and [essentially] substantially perpendicular to the [central] axis [(11)].

3. (Amended) The shift mechanism as claimed in claim [1 or] 2, [characterized in that] wherein the pivot [(15)] is [at] located a distance from the [central] axis [(11)] corresponding essentially to the] that substantially equals radii of the first and second toothed segments [(8,9)].

4. (Amended) The shift mechanism as claimed in [one of] claim[s 1 to 3] 2, [characterized in that] wherein the pivot [(15)] is [arranged] approximately centrally located between the first toothed segment [(8)] and the second toothed segment [(9)].

5. (Amended) The shift mechanism as claimed in [one of] claim[s 1[to 4], [characterized in that] wherein the detent element [(12)] is spring-loaded relative to the housing [(2) in the direction of] toward engagement [of] with the second [detent nose (14)] toothed segment.

6. (Amended) The shift mechanism as claimed in [one of] claim[s] 1 [to 5],
[characterized in that] wherein the first toothed segment [(8)] is rotationally connected to
the actuating part [(3)] by a first detent disk [(16)], and the second toothed segment [(9)]
is rotationally connected [rotationally] to the actuating part [(3)] by a second detent risk
[(17)].

7. (Amended) A shift mechanism for a bicycle gear[s] assembly, comprising:

a housing having an axis;

an actuating lever [(1)] that is arranged in such a way that it can rotate] rotatable
about [a central] the axis; [(11) fixed in relation to the housing and is intended for control
of]

an actuating part [(3), which is arranged in the housing (2), likewise in such a way
that it can rotate about the central axis (11),] disposed in the housing and rotatable about
the axis, the actuating part [has] having toothing and a winding groove [(4)] for receiving
a tension cable[(5)];

a pawl [(6) interacting] engageable with toothing [(7)] on the actuating part [(3)]
to wind up the tension cable; [(5), further comprising a release and retaining mechanism,
comprising a]

first [toothed segment (8)] and [a] second toothed segments [(9), which] are
connected to the actuating part [(3), and];

[a release lever (10), which interacts alternately with the first toothed segment (8)
and the second toothed segment (9), characterized in that, for actuation of the release and
retaining mechanism by means of]

a detent element [(12),] engageable with the first and second toothed segment;
and

[the] a release lever [(10) has] operatively connected to the detent element, the
release lever having a cam contour [(19) that comprises] having at least one rising cam
part [(12)] and one falling cam part [(22), thereby allowing] to allow at least two gear
ratios to be shifted upon actuating the release lever [(10)], while the detent element [(12)
interacts with] engages the cam contour [(19)].

8. (Amended) The shift mechanism as claimed in claim 7, [characterized in that] wherein
the detent element includes a first detent nose engageable with the first toothed segment
and a second detent nose engageable with the second toothed segment, and [(12) interacts
with] engages the release lever [(10) in] such [a way] that, when the release lever [(10)] is
actuated, the detent element [(12)] performs a rocking motion, during which, in
succession, a first detent nose [(13)], on the one hand, comes into engagement with the
first toothed segment [(8)], and a second detent nose [(14)], on the other hand, comes into
engagement with the second toothed segment [(9)].

9. (Amended) The shift mechanism as claimed in [either of] claim[s] 7 [or 8],
[characterized in that] wherein the detent element [(12)] has an edge [(18)] that [interacts
with a] engages the cam contour [(19)] on the release lever [(10)].

10. (Amended) The shift mechanism as claimed in [one of] claim[s] 7 to] 9, [characterized
in that] wherein the edge [(18)] is part of an extension [(20)] on the detent element [(12)].

11. (Amended) The shift mechanism as claimed in [one of] claim[s] 7 [to 10],
[characterized in that] wherein the release lever [(10)] is designed as a trigger lever that
returns to a rest position (N) through the restoring force of a spring [(23)] after each
actuation.

12. (Amended) The shift mechanism as claimed in claim 1, [characterized in that
arranged pivotably on the actuating lever (1) is a] wherein the pawl [(6) that interacts
with] is pivotably mounted on the actuating lever for engaging the tothing [(24)]
connected to the actuating part [(3)].

13. (Amended) The shift mechanism as claimed in claim [1 or] 12, [characterized in that]
wherein the first toothed segment is rotationally connected to the actuating part by a first
detent disk, and the second toothed segment is rotationally connected to the actuating part
by a second detent disk and the tothing [(24)] is connected to one of the [two] first and
second detent disks [(16, 17)].

14. (Amended) The shift mechanism as claimed in [one of] claim[s] 1, 12 or] 13,
[characterized in that] wherein the tothing [(24)] is integrally connected [integrally] to
the second detent disk [(17)].

15. (Amended) The shift mechanism as claimed in [one of] claim[s] 1,] 12, [13 or 14,
characterized in that] wherein the pawl [(6)] is out of engagement with the tothing [(24)]
in the rest position of the actuating lever [(10)].

16. (Amended) A shift mechanism for a bicycle gear[s] assembly, comprising:

a housing having an axis;

an actuating lever [(1) that is arranged in such a way that it can rotate about a central] rotatable about the axis; [(11) fixed in relation to the housing and is intended for control of]

an actuating part [(3), which is arranged in the housing (2), likewise in such a way that it can rotate] rotatable about the [central] axis, [(11), and has] the actuating part having tothing and a winding groove [(4)] for receiving a tension cable, [(5)] the actuating lever controlling the actuating part;

a pawl [(6) interacting] engageable with tothing [(7)] on the actuating part [(3)] to wind up the tension cable; [(5), further comprising a release and retaining mechanism, comprising a]

first [toothed segment (8)] and [a] second toothed segments [(9), which are] connected to the actuating part [(3), and]; and

a release lever [(10), which interacts] alternately engageable with the first toothed segment [(8)] and the second toothed segment, [(9), characterized in that]

the actuating lever [(1)has] having, relative to the actuating part [(3)], at least one stop [(25, 26), which interacts] engageable with a stop extension [(27)] when [the] a first or a last gear ratio is reached, thereby distinguishing the rest position (I) of the actuating lever [(1)] in the first gear ratio and/or the rest position (II) of the actuating lever [(1)] in the last gear ratio from the normal rest position (N) of the actuating lever [(1)] in the remaining gear ratios.